



International Journal of Financial Management and Economics

P-ISSN: 2617-9210
E-ISSN: 2617-9229
IJFME 2024; 7(2): 31-37
www.theeconomicsjournal.com
Received: 21-04-2024
Accepted: 26-05-2024

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The digital economy and its role in achieving sustainable development

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DOI: <https://doi.org/10.33545/26179210.2024.v7.i2.331>

Abstract

The transformations that the contemporary world Witnessed from the nineties until now are nothing but transformations that imposed themselves on the economy and transformed it from the traditional image to the digital one that resulted in the birth of the digital economy, Which led to the multiplicity of names given to our time today including the digital age and the era of the gate. the information revolution dominating economic and social spaces, The era of the creative electronic mind of new wealth and the post-industrial era, Digital economy has taken center Stage in public policy discussions in many countries, mainly developed from them, almost half of the world's population goes to them internet and 80% of the Citizens of the citizens of the OECD countries go to fixed and/or mobile broadband.

Keywords: Contemporary world transformations, digital economy, traditional economy

Introduction

The current digital economy is defined by a novel technology that has emerged as a concept, encompassing access to stable high-speed internet, mobile broadband, smartphones and their applications, interactive websites, social networks, collaborative platforms, cloud computing, and the Internet of Things. These technologies represent the potential that arises from the interconnected strength of the digital economy and its capacity to redefine cooperation and leadership, enhance human efficiency, and disrupt various industries while posing a challenge to established companies. This phenomenon is now a reality in most advanced and emerging nations, impacting their prospects for growth and development. Information technology has become pervasive in our daily lives, impacting various industries and the way information is processed and distributed through the Internet. It has facilitated the rapid dissemination of data in various settings, including homes, schools, workplaces, and leisure activities. Even politicians, parliamentarians, and government agencies rely on it in their offices. The digital information revolution has had a significant impact on the economy and government administration, making them the two primary areas affected. Therefore, European countries have known for years what is called e-government, including official transactions, the right to vote, election and communicate with the administrative authorities. In the economic sector, banking transactions appeared through the information network, Banking transactions appeared through the information network, electronic commerce, and trading in the stock market, all of which are terms that have become common when talking about decentralization and the consequences of globalization and openness to others and the speed of rotation of the wheel of life, of course, all of this has an impact on the course of daily life socially, politically and economically, and perhaps this rapid spread in that digital information revolution is the reason behind the interest of the Organization for Economic Cooperation and Development in Europe to organize this international conference in Rome, in which 350 senior women specialized in various fields participated, During the two days, the 30th and 31st of last January, they worked hard to reach a better deal with this massive rapid development and its consequences, especially in the economic field, and how it could contribute to achieving sustainable development through the types of digital and information revolution that can be in line with economic and commercial transactions and applications

that are from You are likely to succeed in it, taking into account the various technical developments that the Internet is going through.

Research problem

The research problem stems from the fact that the digital economy is one of the variables and one of the factors of growth in many countries of the world, and although the developed countries preceded many countries in the region in this field, they still depend on the traditional aspect in developing their economies, and this requires developing countries to work from In order to catch up with the developed countries in which the digital economy has become the basis for developing the economy and supporting sustainable development.

The importance of the research

The importance of research stems from the great importance that the digital economy enjoys, and its importance comes from the great role it has played in changing the mode of production and growth factors and the large gap between the countries of the world in this field. The importance of research also lies in knowing the role in which the digital economy can play from In order to achieve sustainable development.

The Goals of the research

The research aims to find out

1. The concept of the digital economy and its importance in achieving sustainable development
2. Recognize the effectiveness of digital economy indicators and their role in supporting sustainable development.
3. Know the most important applications of the digital economy

Research hypotheses

Research assignments start from

1. the expected In light of the spread of digital information technology services, economic growth rates will increase and the countries of the world will achieve the goal of sustainable development, especially developing countries.
2. The digital economy based on science and knowledge is a reality that no country can ignore.
3. There are successful experiences of many countries that have been able to move towards the mechanisms of implementing the digital economy and achieve good successes.
4. The digital economy is not the result of the wars and calamities that the world has been exposed to, but rather it stems from the technical and technological revolution that invaded the world and transformed it from the old traditional economy to the digital economy, which led to the occurrence of the digital divide.
5. The study also stems from another hypothesis, which is that the digital economy can contribute to promoting economic growth and achieving sustainable development.

The plan of the research

The first topic: is the theoretical framework for the digital economy and sustainable development.

The second topic: is the role of the digital economy in sustainable development.

Section One

The theoretical framework for the digital economy and sustainable development

The modern digital environment has contributed to many testimonies and developments at the level of micro and macro economies, and its technologies and information systems invaded many cases Its repercussions included vital social sectors in the economy, commerce, administration, education, media and security Many concepts, terms and fields of knowledge emerged from this, as well as transactions, digital media, and new models of the economy All of them have contributed to changing the tastes and consumption patterns of individuals and reshaping their concept of value, commodity and economic service As it became focused in its philosophy on the digital giver in the form of digital information, digital products, digital services, digital programs, digital management and digital or electronic commerce, embodying a new engineering for the global economy in all its dimensions, tools and components, according to what is recently termed in the digital economy. [1].

The concept and characteristics of the digital economy

- The digital economy is distinguished by the integration of information and communication technologies into many economic operations. This criterion will provide insight into the nature of this economy and its associated elements. The digital economy refers to the economic system that is based on digital technologies and the internet, where economic activities such as buying, selling, and exchanging goods and services are conducted electronically. The seamless integration and coordination of information and communication technology with the national economy, sector, and international sphere is essential for achieving transparency and real-time access to economic indicators. This facilitates informed decision-making in economic, commercial, and financial matters within the country over a specific timeframe. The user's text is the superscript symbol for "squared". There are several phrases that encompass the digital economy, and it is possible that most of them are referring to the same notion. These terms help to elucidate the concept of the digital economy, which may be summarized as follows:
 - **The knowledge economy:** it includes the extensive use of knowledge in carrying out economic activities and in their expansion, development and growth. It also means the economy characterized by a high percentage of knowledge-intensive jobs, in addition to the percentage of knowledge or intellectual capital being greater than

¹ - Prof. Muhammad Lakhdar Herz Allah, Prof. Sharif Yousry, The Digital Economy and the Characteristics of New Consumer Behaviour, The Third National Forum on the Start and the Digital Economy: The Necessity of Transition and Protection Challenges, Scientific Research, April 24 and 23, 2018, p. 2.

² - Bushol Faiza and others, "The New Economy Reality in the Arab World and Algeria," Setif University, p. 121.

the ratio of physical capital.²

- **The information economy:** Is the economy that depends in various sectors on information, and it is the economy in which the information work force exceeds the workforce in each of the sectors of agriculture, industry and services^[3].
- **The digital economy:** It also refers to the conversion of conventional procedures into electronic systems. This process entails analyzing all the current methodologies and selecting the most suitable one for the specific context requiring this change. The shift to digitalization is not a passing trend, but rather an essential response to address several modern challenges. One crucial aspect is the eradication of bureaucratic obstacles and convoluted processes, particularly in the context of the shift towards e-governments. Additionally, it is essential to address issues such as overcrowding and the challenges associated with information retrieval^[4].

The following are the most important characteristics and features of the digital economy

A. Easy access to resources

The success and expansion of the digital economy relies on the capacity of individuals and organizations to engage in information networks and diverse Internet platforms. In order to effectively participate in these networks and the digital economy, it is necessary to have access to infrastructure such as power and telephone networks, as well as affordable services and the availability of machines, devices, equipment, skills, education, and training. It offers monetary funds and facilitates the usage of digital and physical forms of currency, such as credit and debit cards.

B. Competition and market structure in the digital economy

The digital economy encompasses several areas such as information and communication technology, electronic commerce, electronic delivery services, software, and information. It is characterized by differences in the amount of economic transactions, specialization, resources, economic sectors, and components of GDP. Certain economists claim that the constituents of the digital economy differ according to the extent of the economy, the influence of information networks, standards, public goods, and the expenses associated with transactions and agreements. Technology is renowned for its quick and transformative impact on corporate organizations, influencing several aspects such as alternative sources, inputs, processes, outputs, products, uses, and distribution. Information technology

has a significant impact on the level of competition and the strategies used, as well as the enhancement of competitive positions. The market structure is contingent upon the extent to which information and communication technology is implemented in the digital economy, both domestically and globally. It is essential to incorporate information and communication technology into several sectors of the economy, particularly in manufacturing, agriculture, education and training, and financial, banking, and investment services.

C. The future of macroeconomics in the light of the digital economy

Information and communication technology plays a key role in increasing economic growth rates, capital investments, and internal and external electronic commerce. And the Internet affects the methods of performing commercial transactions and methods of work.

D. The digital economy provides information for decision making

Effective utilization of information may exert control over its dissemination and application to facilitate economic decision-making and policy formulation. Proficiency in information management is crucial for making appropriate long-term financial decisions. The digital economy facilitates the acquisition of information by teaching individuals how to recognize their information requirements and subsequently select the most suitable sources^[5].

An analysis of the most prominent aspects of the digital economy

Great transformations have taken place in society and the economy due to the growth, integration and complexity of the information and communication technology sector, where computers and electronic tools are able to achieve direct communication with each other regardless of the distances between them. This communication and communication is achieved through global networks, the most important of which is the international networks of Internet information. This great development, with the growing use of the Internet, has led to a digital revolution that has brought about fundamental changes in the structure of the economy, dismantling traditional systems, and establishing the terms of a new system, which is the digital economy, the Internet economy, or the new economy, which resulted in tangible effects in many areas in business, public administration, education, health, agriculture and others, through which individuals and institutions can communicate with each other in order to choose the most appropriate products and services through conducting price comparisons and making a purchase decision^[6].

Through the foregoing, we can talk about the applications of the digital economy which are:-

³ - Alaa Farhan Talib, Amira Al-Janabi, Knowledge Management "Customer Knowledge Management", (Jordan: Distribution Publishing House, 2010), p. 84.

³ Mechanisms of remote marketing in light of the trend towards the digital economy - a case study of the External Bank of Algeria (Oum El Bouaghi Agency), a master's thesis, Oum El Bouaghi University, 2014-2015, p. 62.

⁴ - Shiwal Eman, Abad Zina, Strategic Vigilance and Economic Intelligence / Big Data, Mohamed Boudiaf University of M'sila, Faculty of Economic Sciences Business and Management Sciences, International Scientific Forum, Digital Transformation of Enterprises and Predictive Models on Big Data on November 12-13, p. 2.

⁵ - Farid Al-Najjar, "Integrated E-Commerce and Business in the Knowledge Society," University House for Publishing and Distribution, Alexandria, 2006, pp. 26-29.

⁶ - Bouafia Rachid, "Electronic Banking and the Algerian Banking System," a memorandum submitted to obtain a master's degree in economic sciences, specializing in money, finance and banking, Blida University, 2005, p. 24.

Applications and manifestations of the digital economy

1. Electronic banking

Electronic business is nothing but a combination of digital processes and systems that enable the bank to control and control its business at the internal and external levels.

2. The electronic government

The advancement of information and communication technology has led institutions to incorporate technology into their internal and external operations. However, this is dependent on the presence of a fundamental technological infrastructure that allows citizens to access information quickly, efficiently, and transparently. Electronic government refers to the process of using information technology to alter and improve the interactions between institutions and citizens, with a focus on promoting transparency, reducing corruption, and providing the best possible services to citizens. This includes facilitating access to information, which in turn maximizes benefits and minimizes expenditures^[7].

3. Electronic Commerce

Electronic commerce represents one of the topics of the digital economy based on two facts, namely electronic commerce and information technology and information technology or the information industry in the era of computing and communication that created the realistic and real existence of electronic commerce as it depends on information and communication technology and various other technical means to implement and manage commercial activity, The concept of e-commerce lies in every commercial transaction between the seller and the buyer in which the Internet contributes, in whole or in part, to provide information that specializes in a specific service or commodity, to purchase it later. Payment is made electronically, whether by a paper check upon delivery or other ways^[8].

Electronic commerce describes the process of buying, selling and exchanging products, services and information through networks, including the Internet, in a direct manner (online)^[9].

Electronic commerce is the use of computers and information and communication technology in the exchange of goods, services and information^[10].

Electronic commerce, often known as e-commerce, refers to the process of conducting business transactions for buying and selling goods, services, and information over the Internet and other worldwide commercial networks. This encompasses the dissemination and transportation of goods, monitoring of processes, settlement of financial obligations, and finalization of contractual agreements. It also involves the management, negotiation, and engagement between buyers and sellers, as well as the establishment of customer

relationships to facilitate sales and purchases, along with post-sales services. Additionally, it entails the provision of information regarding goods, merchandise, and services, as well as the promotion and advertisement of products and services. Technical assistance for purchased goods and electronic data exchange, including banking transactions, electronic invoices, and inquiries about goods and price catalogs, are also included.

Second section

The role of the digital economy in sustainable development

Technology and innovation have an important role in achieving comprehensive sustainable development. The studies that have been prepared have shown the extent to which science, technology and innovation contribute to development, and once the level of complexity and complexity in the goals of sustainable development is revealed, Until now, science, technology and innovation are seen as a critical tool to achieve those goals within the framework of the knowledge revolution, The acceleration of technological progress focuses on the goals of sustainable development and on establishing resilient infrastructures and stimulating inclusive and sustainable industrialization and Fostering innovation, Innovation is also an essential component of most goals related to health and well-being, education, gender equality, decent work, economic growth, sustainable cities and communities, climate, peace and justice, strong institutions and partnerships.¹¹ Knowledge has become the main engine of production and economic growth, and the focus on information, data and technology has become one of the recognized factors in modern economies. As a result, new terms like the digital economy, the information revolution that dominates the economic and social spheres, the education economy, knowledge, and the third wave have begun^[12].

First: The digital economy and some variables of sustainable development

First, the role of the digital economy in promoting the fields of production, especially agriculture and industry.

The scientific and technological revolution paved its way with all the achievements that man had previously achieved in the field of science and production, and then made science itself a direct productive force because it became organically integrated into the material production processes, and then these revolutions brought about its development that occurred in the second half of the seventies of the last century, And when it established an information technology economy based on computers or electronic contracts, and this means the merging of three streams or levels of scientific and technological advancement, which are:

- Improving equipment used is a normal development that consists in a large number of small improvements in technical, technology, organizational and productivity.
- The introduction of major renovations that lead to many

⁷ Abu Bakr Mahmoud Al-Hosh, E-Government, Reality and Prospects, First Edition, Nile Arab Publishing Group, Cairo, 2006

⁸ Amer Muhammad Mahmoud, "Electronic Commerce", first edition, Arab Society Library for Publishing and Distribution, Jordan, 2006, p.6.

⁹ Ibrahim Abdel Salam, aforementioned reference, p. 7

¹⁰ Abdul Aziz Abdul Rahim Suleiman, "Trade Exchange (Basics, Globalization, and Electronic Commerce)", first edition, Dar Al-Hamid for Publishing and Distribution, 2004, p. 196.

¹¹ - Amer Muhammad Mahmoud, a previous source, pg. 47.

¹² -- Dr. Muhammad Omar Batweij and d. Abdul Qader Hussein Shashi, Mechanisms of Transition to a Knowledge Economy - "With Notes on Some Islamic Countries", Journal of Gulf and Arabian Peninsula Studies, Kuwait, No. 14, 2011, p. 354.

changes in some types of equipment and technology and in the development of new products.

- Scientific mutations and technological breakthroughs and decisive changes in equipment and technology in most branches of production.

Today, computers are the biggest engine of the economy, which has led to a change in the structure of all sectors, the information industry. The knowledge industry has pushed the services sector to the fore. Trade in information has become greater than trade in other products. Hence, the share of non-productive sectors in the economy such as services, banks, insurance and others is increasing.

The digital economy also plays an important role in revitalizing the agricultural sector and its related services, and in meeting the needs of young people, and you can represent the starting point in linking the financing process to payment systems via mobile phones, which would make progress in traditional banking and support the management of financial risks, The improved cash management that stems from phone banking, including instant bill payments, not only helps improve cash usage and thus profitability, but also creates a pathway of credit data about small and remote borrowers, which contributes to finding ways to rank interest for them, Such mechanisms would help not only banks, but also other providers of risk management services such as insurance companies, and a good evaluation would reward more credit-worthy farmers with a greater opportunity to obtain financing, and from¹³ here we can talk about the role of The digital economy in supporting the production process through:-

- There is a positive economic return through the introduction of technological development and modern technologies in the production process, which contributes to raising the per capita share of the gross domestic product, It also leads to an increase in non-oil GDP by less than a third, so that in itself is a strong driver of growth, Nevertheless, the dependence of some countries on oil had a strong enough negative impact to cast a shadow on the political settlement in the country and economic outcomes, and thus the expected positive impact on many political parties that use oil wealth to reward their supporters and their networks of influence instead of meeting the needs of the citizen, The oil wealth has also undermined economic competitiveness, reduced the need for taxes, weakened the responsible relationship between the citizen and the state, and fuelled corruption.

In the midst of political instability and disagreements among political elites, the system of incentives for decision makers appears biased towards the pursuit of instant rewards rather than long-term reforms.

- Iraq has potential export potential for a variety of commodities that, if exploited, could help diversify the country's economy, raise living standards and enhance economic resilience, under the appropriate circumstances, including the return of internal security, the improvement of the trade policy can also lead to an improvement in prices and quality for the Iraqi consumer. This policy includes reforming commercial institutions and legislation that are no longer

appropriate to the current conditions, Such as import licensing laws and the existence of two separate customs areas that must be unified under a unified tariff schedule. Moreover, Iraq enjoys a geographical location that enables it to be a regional center for logistics services, however, its performance lags behind that of its peers, which is reflected in it. Therefore, trade facilitation measures are an urgent priority.

- The agricultural sector in Iraq can be revived to serve as a pillar of a more diversified economy led by the private sector in agricultural production, food processing industries and support services that provide great potential for expansion and job creation Also, agricultural value chains in Iraq have not been subject to the same level of government sector control or governance challenges as it is with other commodities. The agri-food sector in Iraq can develop new ways of working by harnessing its historical experiences and modern technologies in maximizing its competitive potential, but doing so takes time and therefore the short-term models used.

Second, the role of the digital economy in upgrading the field of services

The relative importance of the digital economy and its contribution to the gross domestic product (GDP) has emerged in many countries recently, which has led to facilitating the task of governments in improving and upgrading services,

Despite the difficulties in measuring the digital economy globally, estimates indicate that the digital economy contributes about 15.5 percent Of the global gross domestic product, including government administration services, education services, health, social protection, and financial services, especially financial inclusion^[14].

Second: The requirements and challenges of the transition to the digital economy in light of global and regional experiences

The integration of a country's economy into the global economy depends on a set of foundations that must be provided in this economy, and at the same time they are indicators through which it can be judged on the readiness of countries to enter the digital economy^[15], In 2016, the digital economy accounted for \$11.5 trillion, equivalent to 15.5 percent of the global Gross Domestic Product (GDP). This figure breaks down to 18.4 percent of GDP in advanced nations and 10 percent in emerging economies. The digital economy has experienced significant growth, surpassing global GDP by a factor of 2.5 on average over the last 15 years. Since 2000, it has nearly doubled in size. The majority of the value in the digital economy is concentrated in a few economies: the United States (35 percent), China (13 percent), Japan (8 percent), and the European Union (including Iceland, Liechtenstein, and

¹⁴ -UNCTAD, Ibid. (2019). And World Bank, (2020). "Digital Development: The World Bank provides knowledge and financing to help close the global digital divide, and make sure countries can take full advantage of the ongoing Digital Development revolution".

¹⁵ - Kamal Mansouri, Issa Khelifi, "The integration of the economies of Arab countries into the knowledge economy, components and obstacles", Journal of North African Economics, Issue (04), University of Biskra, pp. 57-58

¹³ - Dr. Muhammad Omar Batwej and d. Abdul Qadir Hussein Shashi, a previous source, p. 132.

Norway) (25 percent).

The digital economy has greatly influenced the retail sales of consumer products, leading to the fast proliferation of merchants such as Amazon who operate exclusively online without a physical store. Furthermore, conventional retailers have undergone restructuring in order to conform to the digital economy. Certain merchants have faced bankruptcy due to their inability to foresee and adjust to the digital economy, while others have collaborated with third-party vendors to completely transition their operations into a solely digital enterprise. This has allowed smaller retailers to effectively compete with major multinational brands.- Policies and mechanisms for qualifying human resources appropriate for the tasks of the digital economy.

- Policies and mechanisms of sustainable investment and financing and the provision of the necessary infrastructure.
- Entrepreneurship initiatives and start-ups to transform into a digital economy.
- Legislative, institutional and regulatory requirements for the transition to the digital economy: the challenges and expected transformations in front of power of work in the context of the transition to the digital economy.¹⁶

Results

1. Studies have indicated that Arab countries have recorded remarkable progress in the field of communications and information technology services, which has enabled a high rate of mobile phone subscriptions.
2. The spread of the digital revolution led to the emergence of banking transactions via the information network and the expansion of its activities.
3. The digital economy has become one of the growth factors in many countries of the world.
4. The concept of sustainable development from a technical and technical point of view represents development that moves society to the use of clean technology industries that use the least possible amount of energy and natural resources.
5. The emergence of the digital giver in the form of digital information, digital products, digital services, digital programs, digital management, and digital or electronic commerce, embodying a new architecture for the global economy.

Conclusion

The digital transformation that has unfolded from the 1990s to the present has profoundly reshaped the global economy, moving from traditional economic models to a digital framework. This shift, driven by technological advancements such as high-speed internet, mobile broadband, and the proliferation of digital platforms, has given rise to what is now termed the digital economy. This new economic paradigm encompasses a wide range of digital technologies and services that have revolutionized the way economic activities are conducted, making them more efficient and integrated.

The digital economy has become a central topic in public policy, particularly in developed nations where internet penetration and broadband access are high. This era of digitalization has introduced new opportunities and

challenges, influencing various sectors including commerce, governance, and education. The rise of digital technologies has led to significant growth in digital commerce, electronic banking, and e-government services, fundamentally altering traditional economic practices and governance structures.

Despite the advancements, there remains a considerable disparity between developed and developing countries in terms of digital economy adoption and infrastructure. Developing nations face the challenge of catching up with their developed counterparts to harness the benefits of the digital economy fully. This includes improving access to technology, enhancing digital literacy, and implementing supportive policies.

In conclusion, the digital economy presents both significant opportunities for economic growth and challenges that need to be addressed to ensure equitable development. Embracing digital technologies and innovations is crucial for achieving sustainable development and bridging the digital divide. Future efforts should focus on strengthening digital infrastructure, fostering innovation, and creating inclusive policies that support the transition to a digital economy, ensuring that its benefits are widely distributed across all nations.

Recommendations

1. When the desire is born to shift from the traditional economy to the digital economy, great importance must be given to intellectual capital in order to build a knowledge-based society, The greater the knowledge capabilities of the workers, the greater their creativity, which gives the institutions a competitive advantage.
2. The necessity of paying attention to knowledge and technology awareness since childhood through the interest of innovators and various researchers and workers in the fields of knowledge because the difficult social and material situation makes them migrate to Western countries that attract many competencies and human resources.
3. Defining a vision for investing in the digital society, such as connecting the smart city, industry, and machines.
4. Taking into account the need to increase the intensification of networks, given that the fifth generation technology requires more base stations, and thus capital and operating expenses will rise.

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¹⁶ - Institute of National Planning, previous source, p. 5.

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